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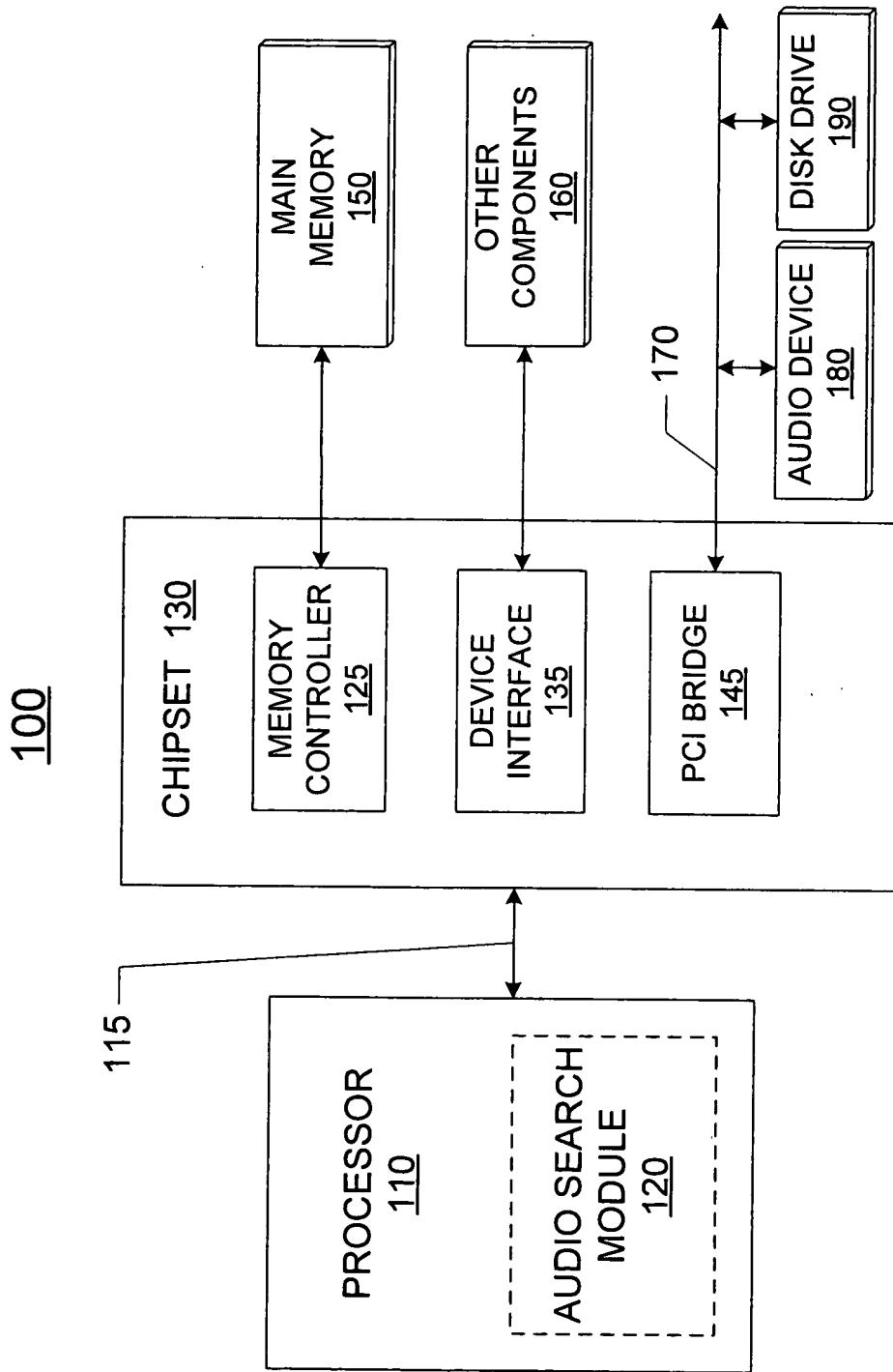


FIGURE 1

Method and Apparatus for Fast Audio Search

Inventor: Chen

Filing Date: August 21, 2006

Attorney Docket No.: 42P24180

Express Mail no.: EV77714262US

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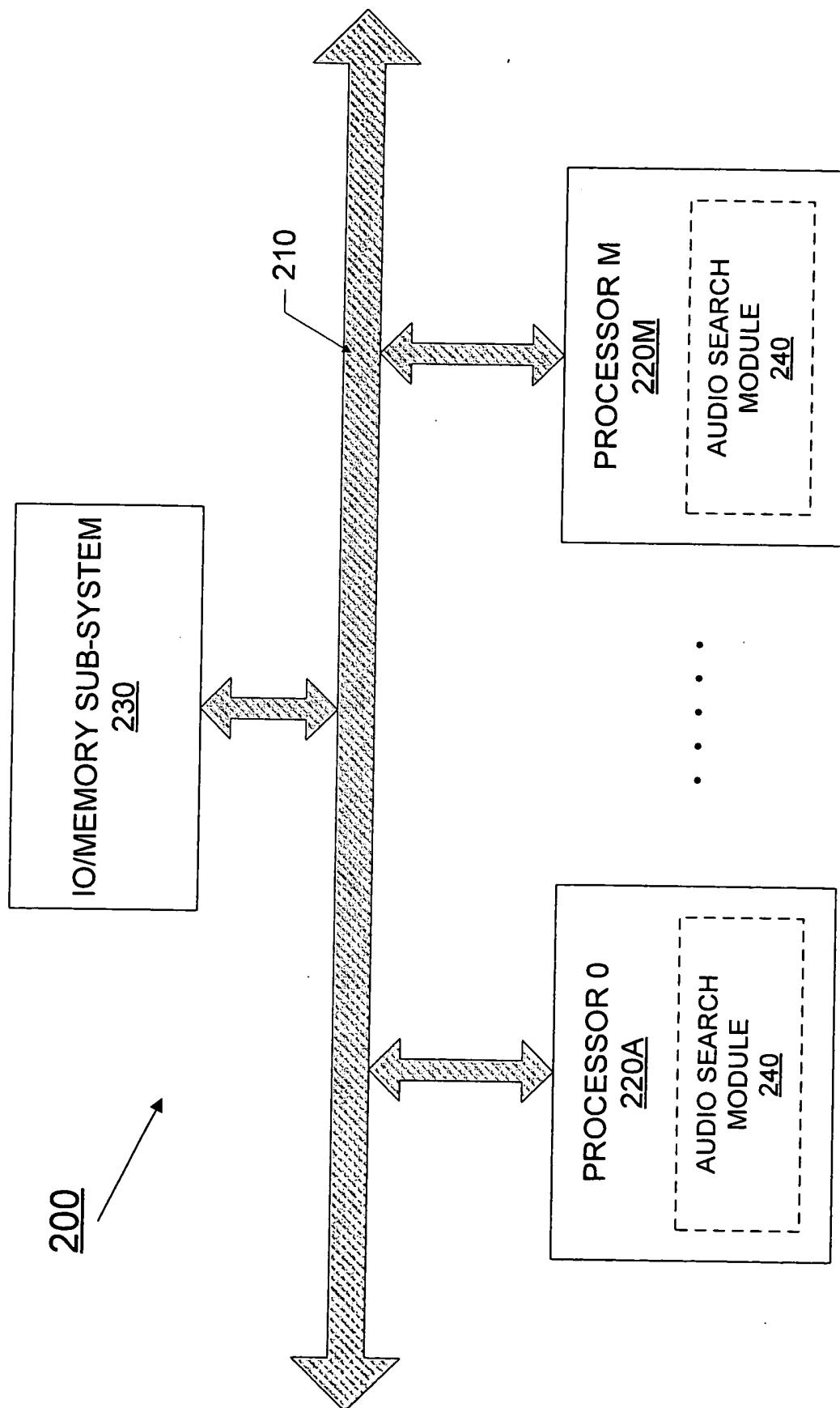


FIGURE 2

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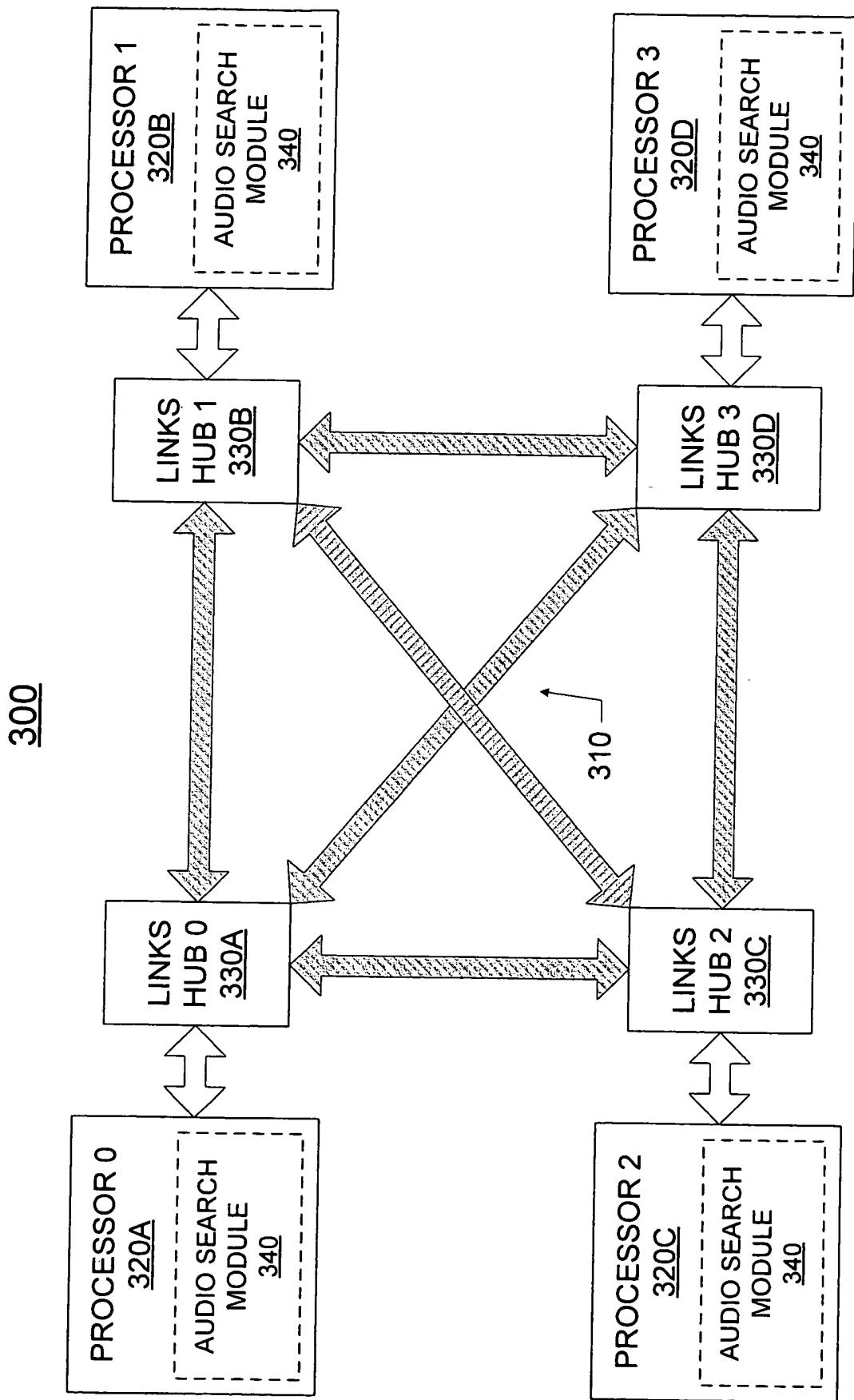


FIGURE 3

Method and Apparatus for Fast Audio Search

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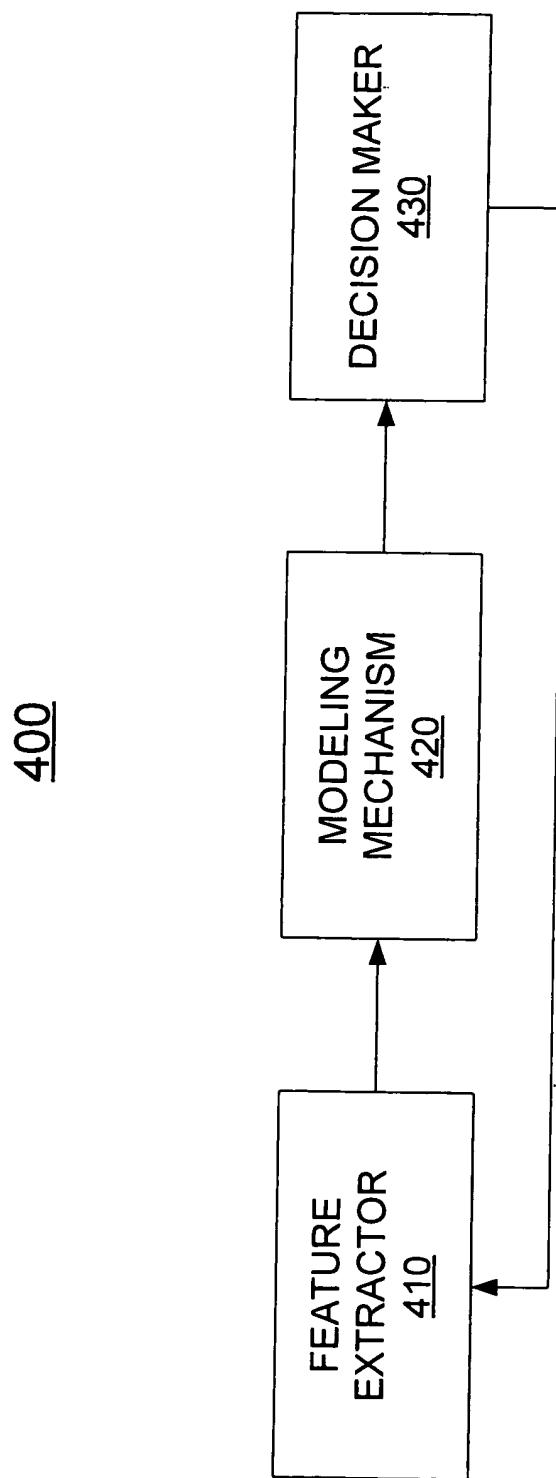


FIGURE 4

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500

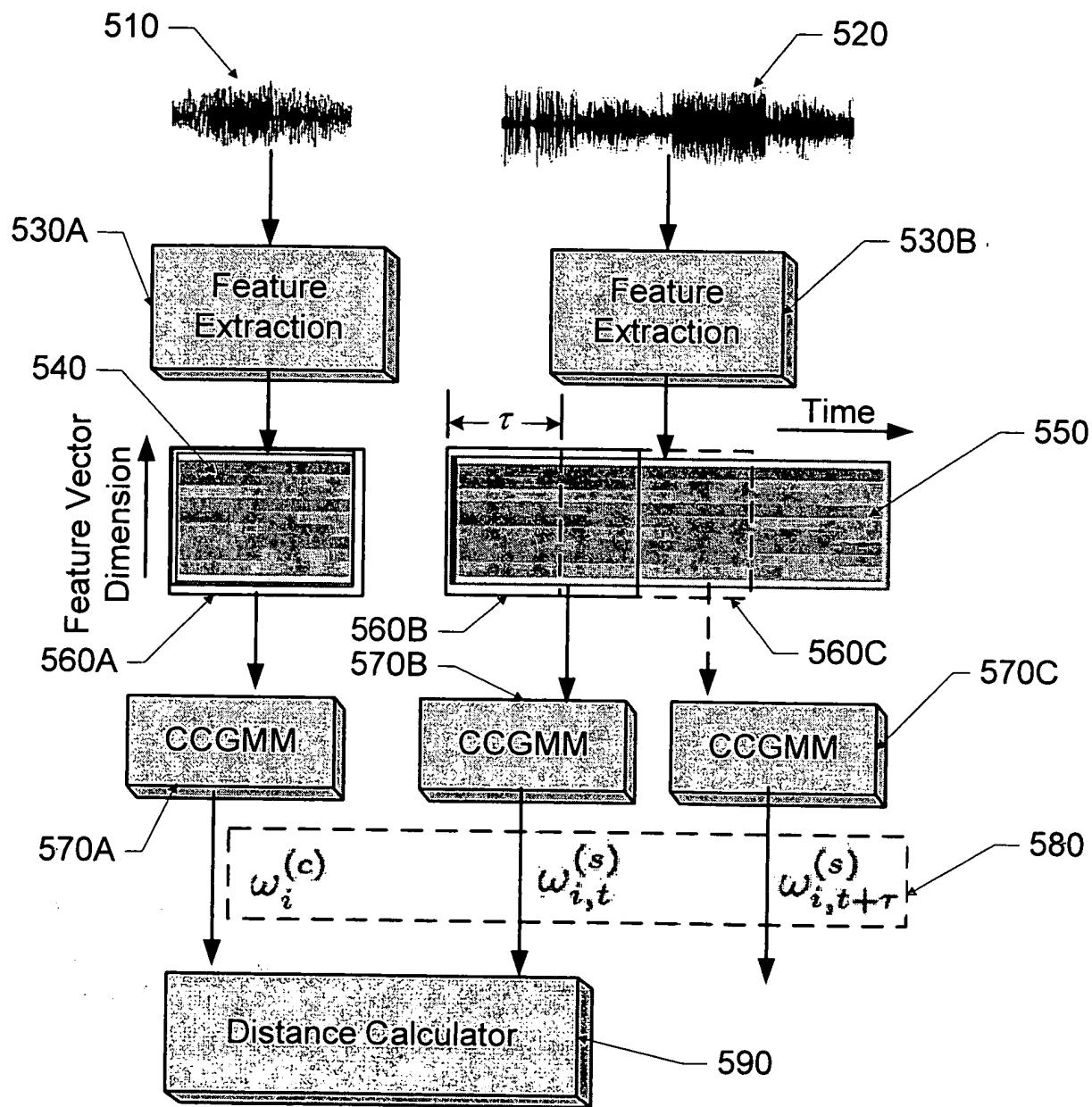
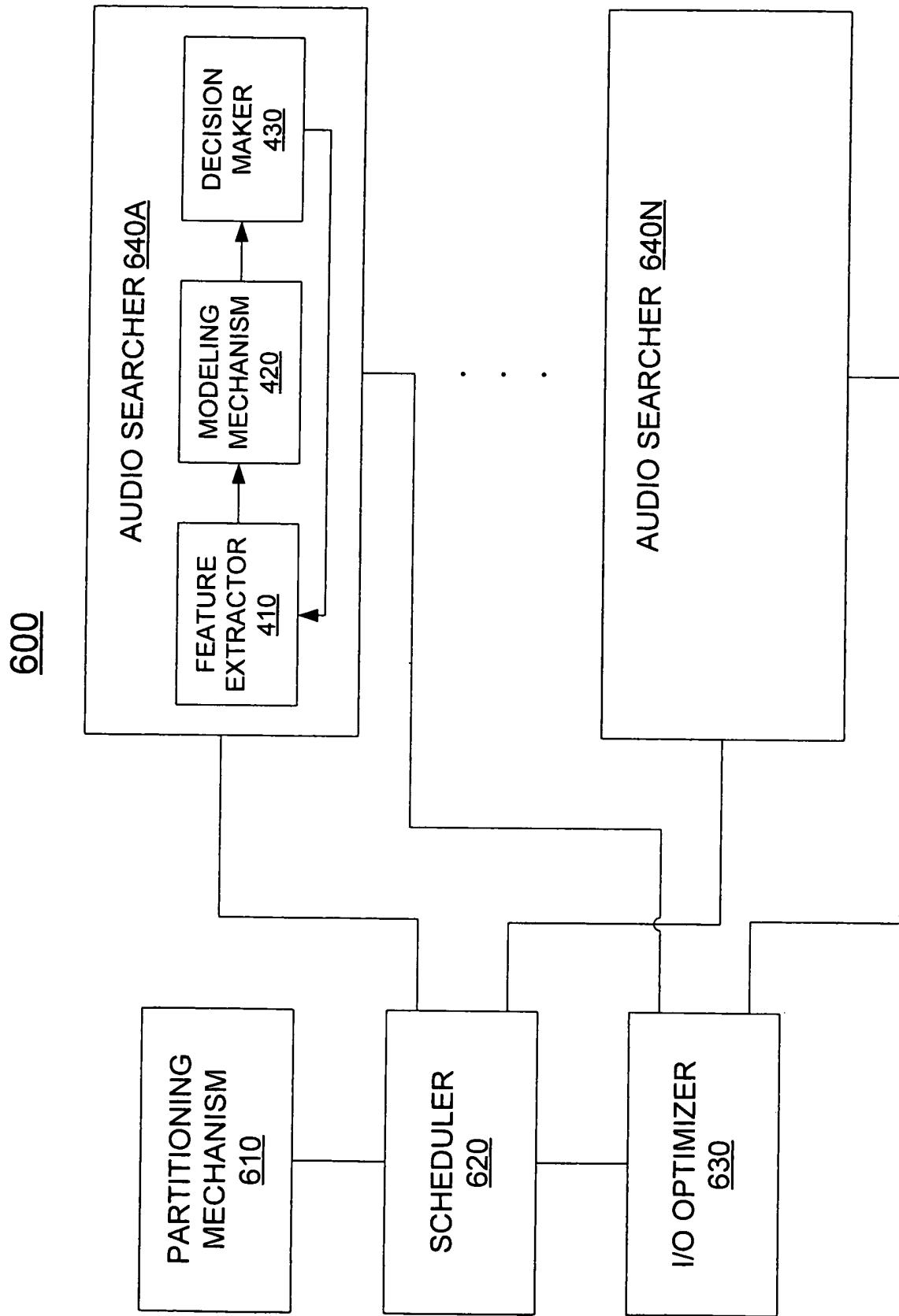


FIGURE 5

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## FIGURE 6

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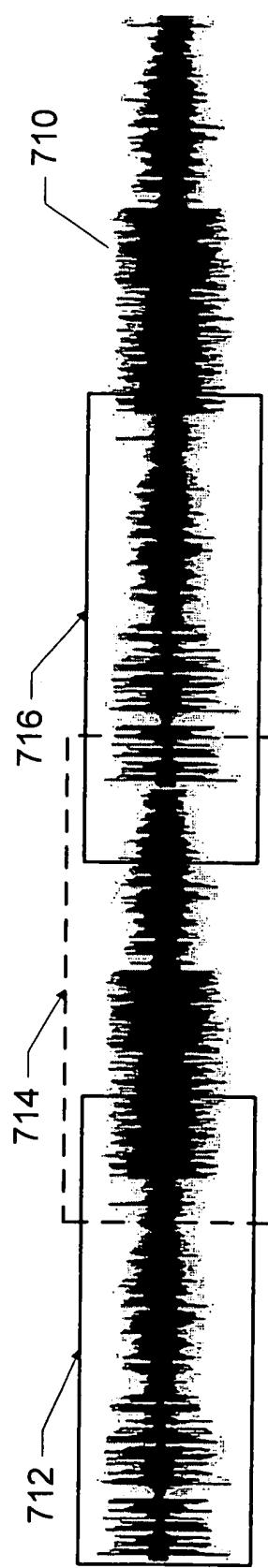


FIGURE 7A

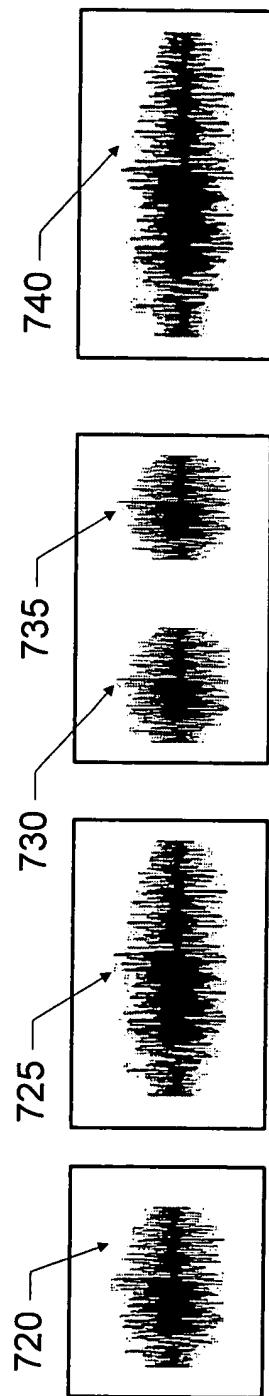


FIGURE 7B

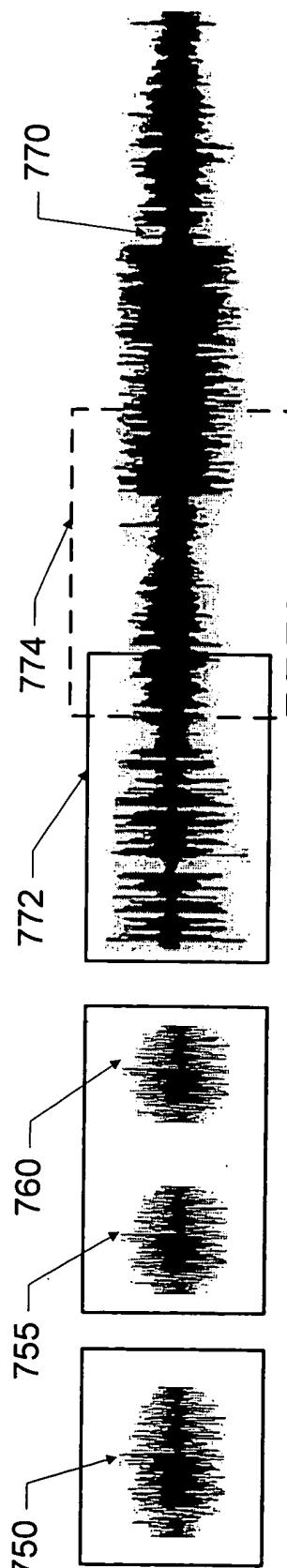


FIGURE 7C

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800

```
802: Initialization;  
804: Partition a large audio database into NG smaller groups;  
806: Establish a model for target audio clip;  
808: #pragma omp parallel for schedule(dynamic,1),  
      num_threads(NumOfThread);  
      /* dynamically schedule smaller groups to available processors and  
      start parallel processing of the scheduled groups by multiple  
      processors */  
810: For groupid = 0 to NG-1  
812: {  
814:     Partition current group into NS partially overlapped  
          segments, if necessary;  
816:     For segmentid = 0 to NS-1  
818:     {  
820:         Extract a feature vector sequence;  
822:         Establish a model for the segment;  
824:         Compute distance between the model of each  
          segment and the target audio clip model;  
826:         If Distance < threshold #1, Match!  
828:         else if Distance > threshold #2,  
          Skip M segments in the same audio stream;  
830:         Store results into an local array for the group;  
832:     }  
834: }  
842: Output search results of local arrays from each processor ;
```

FIGURE 8